

Amendment 382 **Contract No. 229944**

To the Contract for the Design, Implementation, Operation and Maintenance of the Regional Fare Coordination System

This Amendment 382 to the Contract for the Design, Implementation, Operation and Maintenance of the Regional Fare Coordination System is entered into this 30th day of August, 2016, by and between Vix Technology (USA) Inc (formerly known as ERG Transit Systems (USA) Inc), a California corporation and wholly owned subsidiary of Vix Mobility Pty Ltd, an Australian corporation, (hereinafter referred to as the "Contractor") and each of the following seven public transportation agencies (hereinafter referred to individually as an "Agency" or collectively as the "Agencies"):

1. Central Puget Sound Regional Transit Authority ("Sound Transit")
2. King County ("King County")
3. Kitsap County Public Transportation Benefit Area ("Kitsap Transit")
4. Pierce County Public Transportation Benefit Area ("Pierce Transit")
5. Snohomish County Public Transportation Benefit Area ("Community Transit")
6. City of Everett ("Everett")
7. State of Washington, acting through the Washington State Department of Transportation, Washington State Ferries Division ("WSF")

Recitals

- A. Effective April 29, 2003, each of the Agencies and the Contractor entered into Contract #229944 ("Contract") to implement a Regional Fare Coordination System ("RFC System") to establish a common fare system utilizing smart card technology. The Contractor is responsible for the development, implementation, operation and maintenance of the RFC System as specified in the Contract.
- B. The Agencies and the Contractor desire to amend Section VI of Exhibit 9, Price Schedule Special Programs, to compensate the Contractor to develop a replacement for the Portable Fare Transaction Processor (PFTP) inspection application that can be installed and used on an Android device. This work is performed per PA-ROF *Portable Inspection Application (CR-12313) v4.0* as approved by the Agencies on August 14, 2016.
- C. The Parties agree that the Work necessary to modify the ORCA system as directed will be performed and compensated as described below.

Agreement

Section 1.0 Description of Work

The Contractor will perform all necessary work to design, develop, test and implement a new replacement PFTP inspection application that can be installed and function on an Android device.

General

1.1 Vix cannot guarantee that any given Android device will run or operate the Inspection Application as expected. The Agencies will ensure their chosen device is compatible and fit for purpose based on the established Android version the application is built against (Android 4.2.2 for the Panasonic Toughpad FZ-X1). However, Vix will work with the Agencies if there are specific device requirements on a case by case basis (any further development work will be raised in separate change requests).

1.2 The Inspection Application will read DESfire ORCA fare cards via the device native NFC ISO 14443. This includes operator cards with a transit application, however cards with only an operator application will not be read. Only free read data can be read and not encrypted data.

1.3 The Inspection Application will require Near Field Communication (NFC) to be enabled on the device before executing. It will not automatically enable NFC when first executed.

1.4 Google requires that all applications are digitally signed with a certificate before they can be installed and can only be installed if the certificate is valid and has not expired.

1.5 The Inspection Application will not consume configuration data (CD), apply actionlists or generate user data (UD); it is considered to be a stand-alone application. Subsequently, the Inspection Application will not receive any system updates that are normally distributed via CD or web service calls; such updates will require a new Inspection Application version (i.e. updates to product and location names, new products and locations, updates to transfer window times). These changes will be addressed in their respective change requests.

1.6 Android devices commonly invoke a sound when a card is read through a NFC presentation (implemented for security purposes by Google). The type of sound and volume is controlled by the Android device/operating system and cannot be changed by the Inspection Application.

1.7 The Inspection Application will only retain data for the most recent card read, including if the device is locked and then unlocked. It will not keep any data of a card read if the application is minimized, closed/terminated or if the device is restarted or shutdown.

1.8 A menu on the Inspection Application will allow access to the following:-

- (a) Inspection
- (b) Card enquiry
- (c) Inspection log
- (d) Settings
- (e) About

Inspection

1.9 The Inspection screen will be invoked by default when the Inspection Application is run.

1.10 The following business rule logic is applied when a card is presented for validation:-

- (a) The details of the most recent journey (transit or ferry) is compared against the device's current date/time and configured Agency
- (b) A valid inspection result will be returned when the journey has a matching Agency, the journey date/time is within the two hour transfer window and the card is unblocked
- (c) An invalid inspection result will be returned when the journey does not have a matching Agency, if the journey date/time is outside of the two hour transfer window, if the card is blocked or if the most recent transaction was a checkout or reversal
- (d) An invalid inspection result will be returned for cards that are blocked. The inspection result will display the passenger type and that the card is blocked (the blocking reason will not be shown)

1.11 The inspection result screen will display the following information (in the context of the most recent journey):-

- (a) The text 'Card Tapped'
- (b) Training card (only if the card is determined to be a training card)
- (c) Passenger type
- (d) Validation mode
- (e) Transaction date and time
- (f) Agency (not shown for reversals)
- (g) Location type
- (h) Location name (for CT BRT, KCM RapidRide, KCM Streetcar, ST Sounder, ST LLR)
- (i) Solid background color to be used on the inspection result screen (green for a valid inspection, red for an invalid inspection) with black lettering

1.12 Swiping right on the Inspection screen in the context of an active inspection will return to the default (waiting for card presentation) Inspection screen.

1.13 The Inspection result screen will be invoked if a card is read, even if the application is not running (as the Android OS will forward the NFC presentation to the Inspection Application).

Card Enquiry

1.14 The Card Inquiry screen can be accessed either from the menu or by swiping left on the Inspection screen in the context of an active inspection. If accessed from an active inspection, the card details as previously read will be shown.

1.15 The Card Inquiry screen will display the following details of a card following a successful read:-

Card Details

(a) ORCA Card

- i. CSN
- ii. Purse Balance
- iii. Business Account Card
- iv. Passenger Type
- v. Card Status
- vi. Training

(b) Transit Journey

- i. Last Journey Update
- ii. Validation Mode
- iii. Validation Status
- iv. Last Service Provider
- v. Last Location Type
- vi. Last Location Name
- vii. Total Purchase Value
- viii. Last Purchase Value
- ix. Product Type Used

(c) Ferry Journey

- i. Last Journey Update
- ii. Validation Mode
- iii. Validation Status
- iv. Last Service Provider
- v. Last Location Type
- vi. Last Location Name
- vii. Total Purchase Value
- viii. Last Purchase Value
- ix. Product Type Used

Ride Log

- (a) An ORCA fare card stores the most recent 10 fare transactions.
- (b) The Ride Log will list descending each entry, displaying the type of transaction, the time and date, the Agency and location type.
- (c) Selecting an individual entry will invoke a popup that will display the date and time, Agency and location type, the location name (if available), the transaction type, the name of the product used, the Purse amount used (if applicable), the Purse balance at the time (if applicable), or the product validity period.

Revalue Log

- (a) An ORCA fare card stores the most recent 5 revalue transactions.
- (b) The Revalue Log will list descending each entry, displaying the type of transaction, the time and date, the Agency and location type.
- (c) Selecting an individual entry will invoke a popup that will display the date and time, Agency and location type, the location name (if available), the transaction type, the name of the product revalued/reversed, the Purse amount added (if applicable), the Purse balance at the time (if applicable), or the product validity period.

Inspection Log

1.16 The Inspection Log screen will provide a tally of the valid and invalid inspections performed on that device.

1.17 The Inspection Log tally can be manually reset by the user. Once reset, the Inspection Log will also display the time and date of the last reset.

Settings

1.18 Available under Settings from the menu, the user will able to select the Agency that will be used in the inspection validation logic. The available Agencies are:-

- (a) Community Transit (CT)
- (b) Everett Transit (ET)
- (c) King County Metro (KCM)
- (d) Kitsap Transit (KT)
- (e) Pierce Transit (PT)
- (f) Sound Transit (ST)
- (g) Washington State Ferries (WSF)

1.19 The configured Agency will be highlighted.

1.20 The default Agency following installation of the application will be Sound Transit.

About

1.21 The About screen will display the application version number and application version date.

Distribution

1.22 Vix Seattle and the Agencies will be responsible for determining the distribution of the Inspection Application.

Documentation Updates

The Contractor will update system documentation which has been identified as:

- (a) SEA-01052 Portable Fare Transaction Processor (DR 105B) - Functional Specification
- (b) [SEA-TBD] Android Inspection Application – Functional Specification

Section 2.0 Schedule

2.1 The Work described in Section 1.0 will be completed in Maintenance Release (MR) 32.

NOW, THEREFORE, in consideration of the mutual covenants contained herein, the sufficiency of which is hereby acknowledged, the Parties hereby agree to amend the Contract as follows:

Section 3.0 Compensation Changes

Section VI (Implementation) of Exhibit 9, Price Schedule, is hereby amended to read as follows:

VI. IMPLEMENTATION

SPECIAL PROGRAMS

LUMP SUM COST

Amendment No. 382

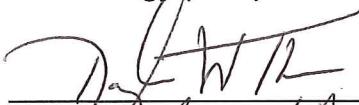
Develop a replacement for the Portable Fare Transaction Processor (PFTP) inspection application that can be installed and used on an Android device.	
TOTAL	\$47,551

Section 4.0 Other Terms and Conditions

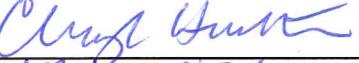
All other provisions of the Contract not referenced in this Amendment Three Hundred and Eighty Two shall remain in effect.

IN WITNESS WHEREOF, authorized representative of the Agencies and the Contractor have signed their names in the spaces provided below.

Vix Technology (USA) Inc.

By: 
Its: David H. T. Hwang
Date: 8/26/16

The Agencies

By: 
Their: Cruz Wynn
On behalf of the Agencies
Date: 8/30/16